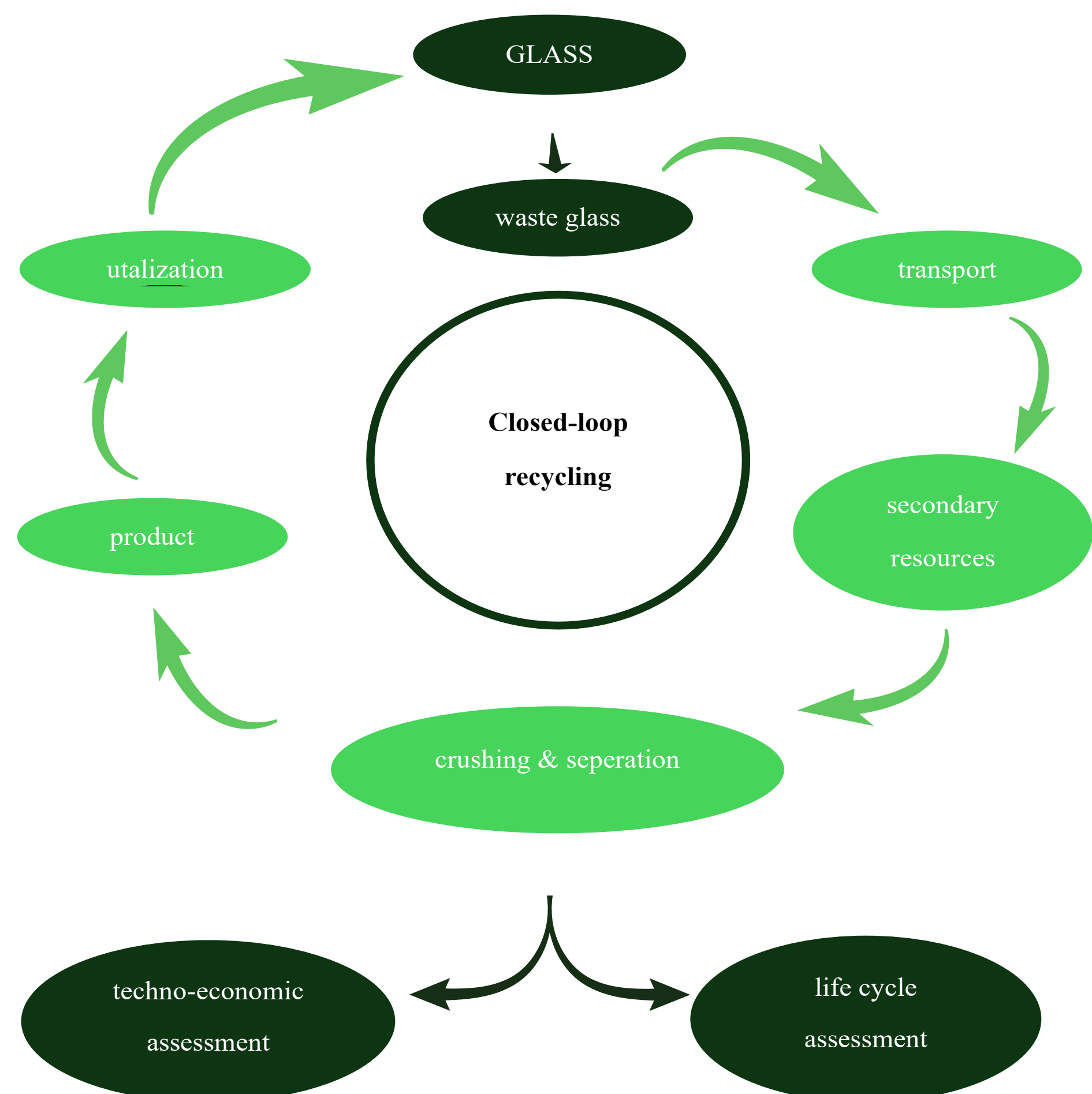


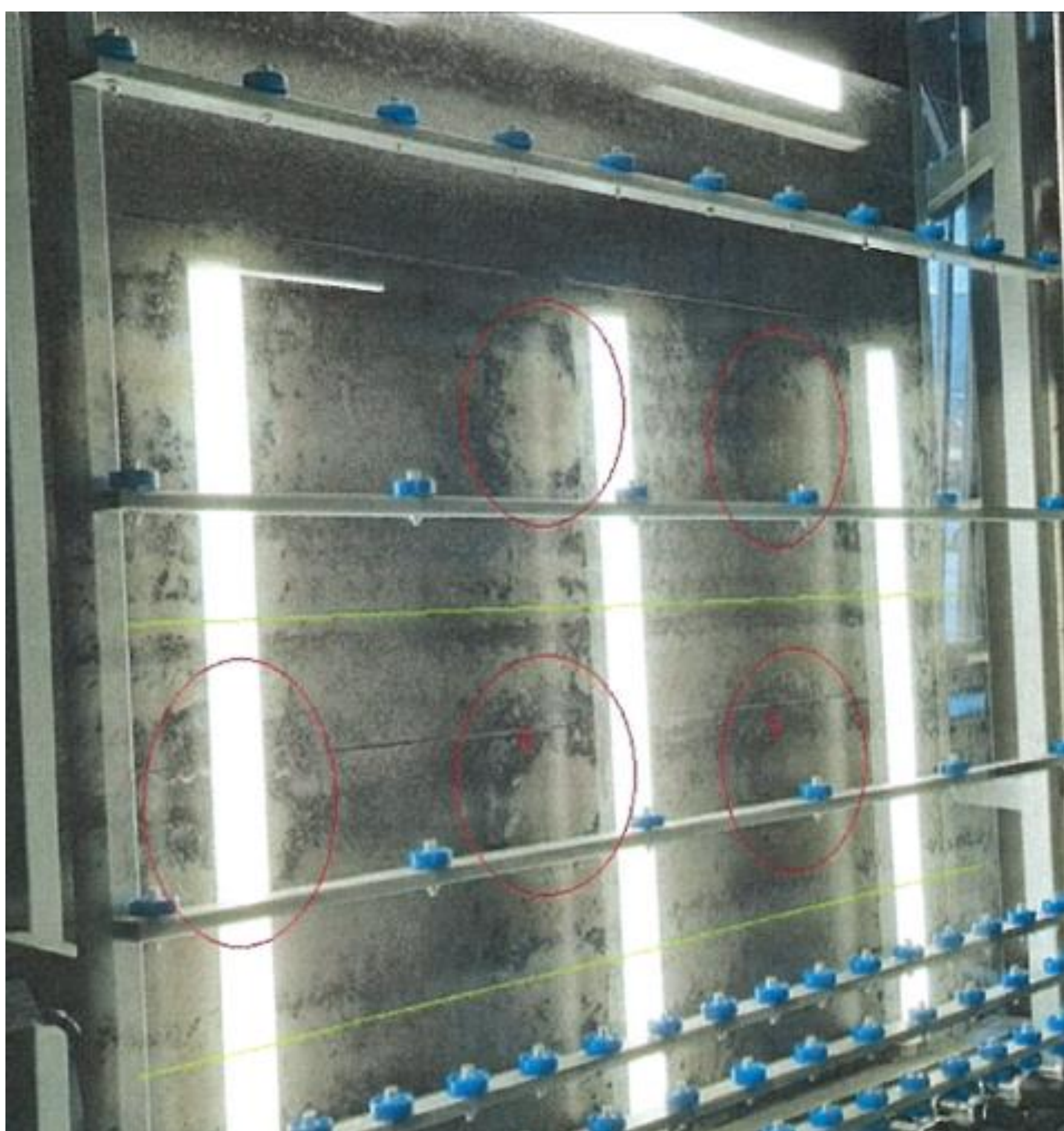
Every year, the amount of household waste in the world and in Latvia is constantly increasing, where approximately 11% of its total amount is glass.

In the growing construction sector, the consumption of sheet glass is also increasing. Sometimes, sheet glass, energy-intensive product is delivered to the manufacturers in poor quality, with defects.



Introduction

The purpose of this research is to find out as a result of testing - what kind of defects have occurred, what was the reason for these defects to occur. Find the most efficient way to turn it into a product with high added value. To evaluate the economic benefits and the reduction of the impact on the environment, in order to promote the circularity of glass in the closed-cycle processing of glass waste, which is more sustainable concept.



METHODS

Equipment and methods used in the tests in laboratory: digital light microscope, combined system of Raman spectrometer Microscope, balances, Digital Caliper etc. Evaluation of the obtained measurements and analysis of relevant literature.

RESULTS

Glass defect- the impossibility of cleaning the frosting, firstly, indicates that the particular used separating agent for glass sheets and the resulting products are insoluble in water. Secondly, it can indicate that the "Second Stage of Glass Staining/etching/leaching" has begun, which may be a consequence of the use of low-quality chemistry.

Many types of functional glasses with surface treatment can be developed from defective glass, such as heat reflective, electrochromic, where new materials and processing conditions are required for glass coatings. Defective sheet glass can be observed with sandblasting, and chemical matting of the glass surface can also be performed. Defective sheet glass can be laminated - several layers of glass, including defected ones, can be glued together. Thus creating new products with high added value, improved technical features (safety, security and acoustic properties) and impactful environmental impact.